

**Review Comments**  
**Proposed Source Control Decision-Determination that Source**  
**Control Measure Satisfactorily Performed**  
**Schnitzer Investment Corp. Doane Lake Property, ECSI #395**  
**6529 NW Front Avenue**  
**Portland, Oregon**  
**Document Dated January 15, 2016**

*Submitted February 12, 2016*

Following are the United States Environmental Protection Agency's (EPA) comments on the January 15, 2016 Proposed Source Control Decision Proposed Source Control Decision-Determination that Source Control Measure Satisfactorily Performed memorandum, prepared by the Oregon Department of Environmental Quality (DEQ) regarding the Doane Lake Property (ECSI# 395), located at 6529 NW Front Avenue in Portland, Oregon.

EPA understands the objective of the memorandum was to present the basis for the DEQ's proposed source control decision (SCD) at the Schnitzer Investment Corp (SIC) Doane Lake Property. DEQ has determined that the source control measure (SCM) that was implemented at the Doane Lake Property adequately addresses source control.

**General Comments**

1. Based on the description and design drawings of the stormwater system and SCM that was implemented at the site, along with stormwater inspections that have been performed to date, there is no evidence of stormwater being discharged from the site. Accordingly, based on current evidence, the stormwater pathway is not considered a contamination source to the Willamette River and EPA agrees that the implemented SCM at the site is adequate. However, EPA may reevaluate this decision contingent upon the results of post-SCM inspections that are ongoing (see comment #3 below).
2. EPA previously commented on the 2012 draft SCD Report and determined that the stormwater pathway was not adequately characterized and that, based on evidence in the report, there was potential for stormwater to be discharged from the site. These issues have been adequately addressed through implementation of the SCM, which included installation of a berm and swale that transports runoff to the retention pond at the Site (East Doane Lake Remnant). Ongoing stormwater inspections at the Site will be used to verify that discharge is not occurring from the Site; EPA may reevaluate the adequacy of SCMs implemented at the site based on the results from the inspections (see comment #3 below).
3. As part of the Soil and Cap Management Plan (Attachment 3), stormwater runoff patterns at the site will be inspected twice per month while the DEQ Construction General Stormwater Permit 1200-C is active, and four times per year for five years after the 1200-C permit is terminated.

EPA considers the stormwater pathway controlled at this site based on the assumption that all precipitation will be retained onsite. If any of the stormwater inspections indicate that stormwater is discharging from the site to adjacent properties or to storm drains off-site, further characterization of these discharges would be needed to confirm that the stormwater pathway is controlled. Any future stormwater sampling and analysis should be performed in accordance with Section D.5 of the Portland Harbor Joint Source Control Strategy (JSCS).

4. The Soil and Cap Management Plan (Bridgewater 2015) provides for inspection of the cap and stormwater management system; however, the plan includes no provisions for monitoring potential impacts to groundwater from the cap and contained shredder residue. A groundwater monitoring program should be implemented to evaluate leaching of contaminants from residue shredder residue to groundwater for the following reasons:
  - Shredder residue ranging from 10 - 13 feet thick remains beneath the cap,
  - High levels of polychlorinated biphenyls (PCBs), bis(2-ethylhexyl)phthalate (BEHP), and metals detected in subsurface soils,
  - The cap was designed to “promote stormwater management (retention and infiltration).”

Monitoring should include installation and monitoring of one or more wells in the Fill/Shallow Zone and Intermediate/Alluvium Zone, at locations along the property boundary.

5. Characterization of the groundwater pathway is inadequate to support DEQ’s determination that “Site contaminates in groundwater do not pose a current or likely future threat to the Willamette River based on the concentration of detected COIs in down-gradient wells, properties of groundwater COIs, and distance to the river.” Limited subsurface soil data collected at the property indicates that PCBs, BEHP, and metals are present at concentrations that could leach to groundwater. The downgradient wells used in DEQ’s evaluation are limited to Arkema site monitoring wells MWA-72 through MWA-77, which are located downgradient of the Outfall 22B stormwater conveyance (OF22B), which is situated partially below the water table. Due to the higher permeability of the backfill (Class B bedding) of the OF22B conveyance, the conveyance is a preferential flow for shallow groundwater migrating from the Doane Lake property. For this reason the Arkema monitoring wells MWA-72 through MWA-77 are not suitable for evaluating potential groundwater contamination from the buried shredder residue and slag at the Doane Lake property. The 2013 revised SCD assumes that because the well screen intervals for MWA-72/75I/77g extend to elevations below OF22B, contaminant concentrations at these wells are “reasonably indicative of concentrations of COIs present in the SIC Doane Lake groundwater.” EPA does not agree with this assumption for reasons summarized here. Based upon the presence of leachable chemicals in shredder residue, and the residue’s location relative to shallow groundwater, the shallow most groundwater would be expected to have the highest concentrations and the shallow most groundwater is the most susceptible to being intercepted by the permeable backfill of OF22B before dissolved phase constituents migrate vertically and horizontally to Arkema monitoring wells MWA-72/75I/77g. To evaluate potential migration of groundwater contamination from the site, one or more monitoring wells should be installed and monitored at the downgradient property

boundary. These wells can be installed in combination with the monitoring recommended in General Comment #4.

6. The memorandum does not contain a single figure that shows all of the SCM components (cap, stormwater management structures, and right-of-way excavations) but relies on a numerous construction plans and as-built survey maps to show the SCM components. EPA recommends that a figure showing all of the SCM components be added to the memorandum to document clearly the completed SCM.

### **Specific Comments**

1. Section 6.1, page 7, paragraph 1: The location where shredder residue from the right-of-way excavation was consolidated within the cap area should be shown on an as-built drawing.
2. Section 6.1, page 8, paragraph 1: The location where shredder residue was left in place within the Front Avenue right-of-way should be shown on an as-built drawing. This information may be needed to inform further source control evaluations or for institutional controls to protect future construction workers.
3. Attachment 3, Soil and Cap Management Plan, Attachment A: The as-built figures in Attachment A should show the location of the two stormwater rip rap energy dissipaters, stormwater swales, and the right-of-way excavation. The red notations indicating “Installed Barrier” should be defined in the legend and explained in this memorandum.
4. Attachment 3, Soil and Cap Management Plan, Attachment B: A location map showing the location of the soil sample results in Attachment B should be included.
5. Attachment 4, Letter – Doane Lake Cap Source Soil Sampling, Analysis and Results (DEQ ECSI #395): Characterization of the 4,304 tons of fill that was imported to the site, is limited to a single 5-point composite sample that was analyzed for total petroleum hydrocarbons, metals, and PCBs, plus a single grab sample analyzed for volatile organic compounds. Other Portland Harbor constituents of concern (COC), such as polycyclic aromatic hydrocarbons, pesticides, herbicides, dioxin/furans, and phthalates, were not tested. If ongoing performance monitoring indicates offsite migration of surface soil from the site, then future assessments should include verification sampling for all Portland Harbor COCs in the erodible areas of the imported fill cap.
6. Attachment 6, 2015 Annual Inspection Report: See General Comment #7 regarding the need for a figure showing all as-built SCM components. Stormwater swale and riprap energy dissipater condition are described but the attached as-built figures do not show the location of these features.